

## REMARKS

Claims 1-20 were pending in this application when examined, and all stand rejected.

Applicants respectfully traverse the examiner's rejections of claims 1-6. Applicants have amended claim 7 to correct a clerical error, and respectfully submit that the amended claim obviates the examiner's rejection of claim 7, as well as the rejections of claims 8-10 which depend on claim 7.

Applicants respectfully traverse the examiner's rejections of claims 11-15. Applicants have amended claim 11 to correct unintentional errors.

Applicants respectfully traverse the examiner's rejections of claims 16-20, and have amended claims 15 and 16 to correct unintentional errors.

Applicants add new claims 21-28, and submit that the claims are fully supported by the specification, and that no new matter has been added.

In light of the remarks and the amendments below, Applicants respectfully submit that claims 1-28 are in condition for allowance, and request that the rejections be withdrawn, the claims allowed, and the case passed to issue.

The specification has been amended to correct obvious typographical errors and to provide consistency between the specification and drawings as filed. No new matter is entered.

1. Examiner's rejections of claims 1-10 are traversed

The examiner rejected claim 1 under 35 USC 103(a) as being unpatentable over US Patent 6,031,512 ("Kadota") in view of US Patent US 5,754,261 ("Lyu"). (Office Action,

page 2) Claim 1 currently recites, *inter alia*, “a plurality of second pixel electrodes... wherein the second pixel electrodes do not overlap the color filters.” The examiner recognized the shortcomings of Kadota and noted that Kadota does not disclose the second pixel electrodes in the substrate. However, the examiner stated that Lyu discloses second pixel electrodes that do not overlap the other color filters. (Office Action, page 2, last paragraph)

Applicants point out that Lyu discloses a second pixel electrode that does in fact overlap color filters. Referring to Figure 2 of Lyu, reproduced on page 3 of the Office Action, the rightmost pixel in the figure is shown directly beneath a red color filter labeled “R.” (Office Action, circled portion of the figure reproduced on page 3) Similarly, all pixels in Figure 2 are directly under either a red, blue, or green color filter. The text accompanying Figure 2 in Lyu’s specification confirms this arrangement by teaching that “the black matrix pattern is positioned to allow light to pass through the pixel electrodes and through the red (R), green (G) and blue (B) color filters 6a.” (Lyu, column 1, lines 39-41) This indicates that the color filters do indeed overlap the pixels, to allow light to pass through the electrodes on their way to the color filters. As Lyu does not disclose pixel electrodes that “do not overlap the color filters” as recited by claim 1, the combination of Kadota and Lyu does not teach all the limitations of claim 1. Therefore, the combination of Kadota and Lyu cannot make Applicants’ invention obvious.

Claims 2-10 depend on claim 1, and therefore each incorporate the limitations of claim 1. As the examiner has cited to Lyu in rejecting each of claims 2-10, Applicants reiterate the comments above with respect to each of those rejections. Claims 2-10 are allowable for at least the reason of dependency on claim 1.

Applicants respectfully submit that claims 1-10 are in condition for allowance.

2. Examiner's rejections of claims 2, 3, and 6 are traversed

The examiner rejected claim 2 under 35 USC 103(a) as being unpatentable over Kadota and Lyu in view of US Patent 6,785,068 ("Takizawa"). (Office Action, page 3) As claims 2, 3 and 6 all depend on claim 1, Applicants reiterate the remarks above concerning Lyu. Furthermore, Applicants submit these additional remarks concerning Takizawa.

Claim 2 recites, *inter alia*, "an organic insulating layer including a plurality of first portions disposed between the color filters and the first pixel electrodes and a plurality of second portions disposed under the second pixel electrodes and having thickness larger than the first portions." The examiner cited a section from Takizawa disclosing: "a configuration... wherein the deep color portion is thicker than the light color portion." (Takizawa, Column 3, rows 60-63, referred to in Office Action, page 4) The examiner characterized the "deep color portion" from Takizawa as corresponding to the first portion recited in claim 2, and the "light color portion" from Takizawa as corresponding to the second portion recited in claim 2. (Office Action, page 4, second paragraph)

Applicants point out that claim 2 recites an organic insulating layer wherein the second portions are thicker than the first portions. In contrast, the examiner characterizes Takizawa as disclosing the first portion (deep color portion) being thicker than the second portion (light color portion). Thus the examiner has not shown that the combination of Kadota, Lyu and Takizawa discloses the limitations in claim 2.

Furthermore, Applicants point out that the first portions recited in claim 2 are "disposed between the color filters and the first pixel electrodes." The examiner has not stated that the first (deep color) portions in Takizawa are disposed between the color filters and the first pixel electrodes. Similarly, the second portions recited in claim 2 are "disposed under the second pixel electrodes." The examiner also has not stated that the light color

portions in Takizawa are disposed under any second pixel electrodes. As the combination of Kadota, Lyu and Takizawa does not teach the configuration that is explicitly claimed in claim 2, Applicants respectfully traverse the rejection of claim 2.

Since claim 3 and amended claim 6 depend on claim 2, the remarks concerning claim 2 are reiterated for claims 3 and 6.

In view of the above remarks, Applicants respectfully submit that claims 2, 3 and 6 are in condition for allowance, and requests that the rejections of those claims be withdrawn.

3. Examiner's rejections of claims 7-10 have been obviated by amendment

Claim 7, as currently amended, recites:

The panel of claim 1, wherein the three primary colors include red, green and blue, the first pixel electrodes include third, fourth and fifth pixel electrodes and the red, green and blue color filters are located under the third, fourth, and fifth pixel electrodes, respectively.

The claim was amended to correct an unintentional error in the original claim. The original claim recited first pixel electrodes located under the color filters, when the specification clearly teaches that the color filters are in fact located under the pixel electrodes. (Specification, page 5, lines 5-7 "a plurality of red, green, blue and transparent color filters 230R, 230G, 230B and 230W formed *under* [emphasis added] the pixel electrodes 190") The amended claim corrects this unintentional error, and is fully supported by the specification, as noted.

In the office action, the examiner rejected claim 7 under 35 USC 103(a) as being unpatentable over Kadota and Lyu in view of US Patent 5,587,819 ("Kadota"). The

examiner stated that Sunohara discloses “the three colors located on top and three pixel electrodes located under it.” (Office Action, page 6, second paragraph) As the amended claim 7 now recites color filters located under the pixel electrodes, Applicants submit that the examiner’s rejection of claim 7 has been obviated by amendment.

As claims 8-10 depend on claim 7, the remarks for claim 7 are reiterated for claims 8-10.

In view of the above remarks, Applicants respectfully submit that claims 7-10 are in condition for allowance.

4. Examiner’s rejections of claims 11-15 are traversed

The examiner rejected claim 11 under 35 USC 103(a) as being unpatentable over Kadota and US Re 33,882 (“Morozumi”) in view of US Patent Application 20020074549 (“Park”). (Office Action, page 7) Claim 11 recites, *inter alia*, “a first substrate; a plurality of gate lines formed on the first substrate; a gate insulating layer formed on the gate lines; a semiconductor layer formed on the gate insulating layer...”

Kadota, in contrast, does not disclose these limitations. According to Kadota, a semiconductor film is formed on a driving substrate. (Kadota, column 4, lines 1-3) Then, “after the semiconductor thin film is patterned to a predetermined shape, a gate insulating film is deposited...” (Kadota, column 4, lines 7-9) Thus Kadota discloses depositing a semiconductor film on a substrate, followed by a gate insulating film. In contrast, claim 11 recites forming gate lines on a substrate, followed by a gate insulating film, followed by a semiconductor layer.

Figure 1 of Kadota, cited by the examiner (Office Action, page 7), confirms the description in the specification of Kadota. In Figure 1, the semiconductor layer (2) is under the gate insulating layer (4), consistent with the specification as cited earlier. The semiconductor layer is not formed on the gate insulating layer in Kadota, as the examiner has stated. (Office Action, page 7, “a semiconductor layer (2) formed on the gate insulating layer (4)”) As the combination of Kadota, Morozumi, and Park does not disclose the limitations in claim 11, Applicants respectfully traverse the examiner’s rejection of claim 11.

Since claims 12-15 depend on claim 11, the remarks for claim 11 are reiterated for claims 12-15.

In view of the remarks above, Applicants respectfully submit that claims 11-15 are in condition for allowance.

5. Claim 11 and the specification have been amended for clarity

For clarity, claim 11 as amended recites *inter alia*:

a plurality of pixel electrodes formed on the second protective layer, the electrodes being connected to the data lines through the semiconductor layer...

Support for this amendment is found in Figs. 1 and 5 of the specification. The specification has also been amended on page 3, lines 7-13 to incorporate this change.

Claim 11 has also been amended to recite *inter alia*:

a common electrode formed on the second substrate...

The original claim mistakenly recited a common electrode formed on the first substrate, when the specification clearly teaches a common electrode on the second substrate. (Specification, page 5, lines 9-13: “The upper panel includes... a common electrode...” ) The specification has also been amended on page 3, lines 7-13 to incorporate this change.

6. Examiner's rejections of claims 16-20 are traversed

The examiner rejected claim 16 under 35 USC 103(a) as being unpatentable over Kadota, Lyu, and Morozumi in view of Park. Claim 16, recites *inter alia*: "a first substrate; a plurality of gate lines formed on the first substrate; a gate insulating layer formed on the gate lines; a semiconductor layer formed on the gate insulating layer..." These same elements are recited in claim 11, which the examiner also rejected as being unpatentable over Kadota. Applicants hereby reiterate the remarks already made in support of the patentability of claim 11 over Kadota, and respectfully submit that claim 16 is in condition for allowance.

Since claims 17-20 depend on claim 16, the remarks for claim 16 are reiterated for claims 17-20, which are allowable for at least the reason of dependency.

In view of the above comments, Applicants respectfully request that the rejections of claim 16-20 be withdrawn.

7. New claims 21-28 have been added

Claims 21-23 have been added to claim additional aspects of the present invention. They are fully supported by the specification (Specification, page 5, lines 20-25), and no new matter has been added thereby.

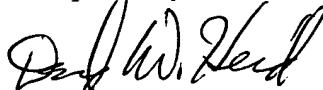
Dependent claims 24-28 have also been added to clarify the scope of the invention. Full support for the dependent claims is found in the specification, and no new matter has been added.

CONCLUSION

Applicants respectfully request that the examiner withdraw the rejections of all claims in this application, and issue a notice of allowance for those claims. If there are any questions, the examiner is encouraged to call the attorney for Applicants at the telephone number listed below.

**EXPRESS MAIL LABEL NO.  
EV 534 475 137 US**

Respectfully submitted,



David W. Heid  
Attorney for Applicants  
Reg. No. 25,875